

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554**

In the Matter of	)	
	)	
Petition for Waiver of Rules	)	GN Docket No. 15-178
Requiring Support of TTY	)	
Technology	)	

**REPORT**

On April 20, 2016, the Federal Communications Commission (“FCC” or “Commission”) granted Competitive Carriers Association’s (“CCA”)<sup>1</sup> request for a waiver of applicable TTY-related requirements for its members’ IP-enabled wireless services in the same manner and with the same conditions as waivers previously granted to AT&T, Cellular South, and Verizon.<sup>2</sup> In granting CCA’s request, the *CCA Waiver Order* required CCA to file, once every six months on behalf of its participating members, “reports detailing participating members’ progress toward implementing RTT.”<sup>3</sup> CCA’s first Progress Report on behalf of its participating members is below, with corresponding carrier information attached as Exhibit A.<sup>4</sup>

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<sup>1</sup> CCA is the nation’s leading association for competitive wireless providers and stakeholders across the United States. CCA’s membership includes nearly 100 competitive wireless providers ranging from small, rural carriers serving fewer than 5,000 customers to regional and national providers serving millions of customers. CCA also represents nearly 200 associate members consisting of small businesses, vendors, and suppliers that serve carriers of all sizes.

<sup>2</sup> *Petition for Waiver of Rules Requiring Support of TTY Technology*, Order, DA 16-435 (Apr. 20, 2016) (“*CCA Waiver Order*”).

<sup>3</sup> *Id.* ¶ 18.

<sup>4</sup> On August 11, 2016, CCA also filed, on behalf of its participating members, a preliminary report with the Commission describing participating members’ initial plans for meeting commitments to develop and deploy RTT or an alternative text-based solution that is accessible, interoperable with other solutions, and backward compatible with TTY technology. *See* Preliminary Report of Competitive Carriers Association, GN Docket No. 15-178 (filed Aug. 11, 2016) (“*CCA Preliminary Report*”).

**I. CCA’S MEMBERS CONTINUOUSLY WORK TO ADVANCE INNOVATIVE TECHNOLOGIES THAT TRANSCEND ACCESSIBILITY BARRIERS.**

CCA’s members are committed to developing and implementing innovative technologies, like RTT, and to working with other stakeholders to make more devices accessible to all consumers. CCA applauds the Commission’s work to advance progress in this area, especially with the Commission’s proposed rules to facilitate the transition from text TTY technology to RTT.<sup>5</sup> While implementing new technologies often are accompanied by challenges, CCA believes RTT technology promises to be tremendously beneficial, especially over new IP-based mediums, to provide all individuals with varied ways of communicating.<sup>6</sup> To that end, and as noted in further detail below, CCA’s participating members continue to strive to implement industry standard capabilities in their 4G LTE wireless networks to support interoperable RTT solutions, where applicable. Likewise, CCA’s members are committed to undertake necessary steps to ensure that critical 911 and 711 services currently supported by TTY can be implemented in RTT. CCA and its participating members echo the Commission’s priority to ensure a seamless transition that achieves interoperability and backwards compatibility between legacy networks and alternative solutions to TTY.

**II. THE FCC SHOULD PROVIDE CCA’S NON-NATIONWIDE MEMBERS ADDITIONAL TIME TO DEPLOY RTT BEYOND DECEMBER 2017.**

As noted, CCA applauds the Commission’s RTT proceeding which represents an important step forward for improved accessibility. CCA’s participating members agree that TTY

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<sup>5</sup> See *Transition From TTY to Real-Time Text Technology; Petition For Rulemaking To Update The Commission’s Rules For Access To Support The Transition From TTY To Real-Time Text Technology, And Petition For Waiver Of Rules Requiring Support of TTY Technology*, Notice of Proposed Rulemaking, 31 FCC Rcd 6247 (2016) (“RTT NPRM”).

<sup>6</sup> Comments of Competitive Carriers Association, CG Docket No. 10-213 (filed Sept. 7, 2016).

technology presents serious challenges as more users migrate to IP-based services.<sup>7</sup> RTT, in contrast, is designed to work on IP networks and take advantage of the greatly expanded capabilities of those networks.<sup>8</sup> The widespread adoption of RTT technology will enable more consumers to fully use and benefit from telecommunications and advanced communications services. With this in mind, however, CCA highlights previous requests in the record seeking an extended compliance term for certain carriers.<sup>9</sup> Specifically, CCA and its smaller, non-nationwide carrier members continue to believe additional time will be required beyond the December 31, 2017 deadline to meet their obligations under the CCA waiver.<sup>10</sup>

CCA members' ability to meet the December 31, 2017 RTT deployment timeframe is largely dependent on other participants in the wireless ecosystem, including but not limited to Original Equipment Manufacturers ("OEMs"). First, ATIS needs to complete development of the RTT specification. Then, devices that integrate this specification need to become available to carriers. Tier II and Tier III carrier's access to such devices will be subject to OEMs willingness to make them available. Once the ATIS specification is complete and devices are available to all carriers, CCA members who have launched IP-based wireless services will be prepared to deploy the infrastructure necessary to support the solution. Indeed, even AT&T's recent report explains that it expects to deploy RTT through an OTT application by December 2017 and mobile devices

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<sup>7</sup> RTT NPRM ¶ 11.

<sup>8</sup> *Petition of Competitive Carriers Association for Declaratory Ruling or, In the Alternative, for a Waiver* GN Docket No. 15-178 at 14 (filed Nov. 3, 2015).

<sup>9</sup> *See Revised Petition of Competitive Carriers Association for a Waiver*, GN Docket No. 15-178 at 7-8 (filed Apr. 8, 2016) ("CCA Waiver Petition"). *See also* Comments of Competitive Carriers Association, CG Docket No. 16-145 (filed July 11, 2016); Reply Comments of Competitive Carriers Association, CG Docket No. 16-145 (filed July 25, 2016).

<sup>10</sup> As CCA noted in its waiver petition, CCA's members are disadvantaged with respect to handset development cycles, and are unlikely to have meaningful input in the design and development of new devices. *See CCA Waiver Petition* at 7-8.

with a manufacturer solution by 2018, with the caveat that this timeframe could be interrupted by ATIS standards setting, manufacturer development, and other unexpected delays.<sup>11</sup> And, Tier II and Tier III carriers have little, if any, ability to influence the technical ecosystem in which RTT will operate. As a result, progress toward implementing RTT remains contingent on a variety of factors outside of many CCA members' control, including standards development and third party capabilities.

Despite these obstacles, CCA's members remain actively engaged in determining next steps necessary to ensure interoperability with alternative solutions and legacy networks, within the most expeditious timeframe. While the Commission reviews comments filed in response to the RTT NPRM, CCA encourages the FCC to extend the December 2017 deadline for non-nationwide carriers.<sup>12</sup>

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<sup>11</sup> See AT&T, *IP-Voice Accessibility Status Report of AT&T*, GN Docket No. 15-178 (filed Oct. 6, 2016) ("AT&T Progress Report").

<sup>12</sup> Likewise, the record in the *RTT NPRM* proceeding highlights stakeholders' shared concerns regarding the feasibility of certain aspects of compliance by December 2017 by even *nationwide* carriers and manufacturers. See Comments of CTIA at 14-15; Comments of T-Mobile USA, Inc. at 9-10; Comments of the Consumer Tech. Ass'n F/K/A the Consumer Elecs. Ass'n at 7; *see also* Telecomms. Industry Ass'n at 5-8, CG Docket No. 16-145, GN Docket No. 15-178 (filed July 11, 2016).

### **III. CONCLUSION.**

CCA applauds the Commission's ongoing attention to updating existing accessibility rules to ensure all consumers have access to these technologies. In seeking to meet this goal, CCA's members remain committed to deploying alternatives to TTY, including through the development of RTT. The remainder of CCA's first Progress Report, including carrier specific information filed on behalf of its members, is attached below as Exhibit A.

Respectfully submitted,

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Attachments: Exhibit A - Participating CCA Member Progress Reports

# **EXHIBIT A**

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## **CCA Carrier Members Not Yet Deploying an Alternative Accessibility Solution; Timing Undetermined**

The majority of CCA's participating members are committed to continued exploration of an alternative accessibility solution, but do not currently have plans to deploy IP-based wireless services in the relevant timeframe by December 31, 2017. Each CCA carrier member listed below will update the Commission on progress, if its timetable changes. As noted above, many of CCA's participating members are rural and regional carriers unable to influence standards setting and the equipment marketplace and, therefore, are not currently involved in deploying RTT within the relevant timeframe. CCA's carrier members also are dependent on availability of affordable equipment, manufacturer cycles, and vendor capabilities. CCA and its members look forward to continued collaboration with industry stakeholders to meet the FCC's accessibility goals.

Consistent with obligations defined in the *CCA Waiver Order*, CCA's participating carrier members commit to implementing industry standard capabilities in the network to support interoperable solutions when they begin to deploy an alternative accessibility solution. Likewise, when CCA's participating carrier members begin to offer IP-based wireless services, they commit to implementing industry standard capabilities in their networks to support interoperable RTT solutions and backward capability with TTY. Carriers also will ensure that 911 calls are delivered in accordance with the applicable obligations to transmit 911 calls to appropriate PSAPs or emergency authorities. CCA's members remain actively engaged with industry associations to stay informed of educational and industry efforts to implement RTT, and to ensure accessibility compliance. A list of participating CCA carrier members that have opted into CCA's TTY waiver and that seek to meet these commitments when they begin to deploy an alternative accessibility solution is below.

**Agri-Valley Communications, Inc. d/b/a Agri-Valley Services**

**Americell PA-3, LP d/b/a Indigo Wireless**

**ATN International, Inc., and affiliates**

**Barnes City Telephone Cooperative**

**Carolina West Wireless, Inc.**

**Cellular Network Partnership d/b/a Pioneer Cellular**

**Central Louisiana Cellular, LLC d/b/a Cellular One**

**CML Telephone Cooperative Association**

**Cross Wireless, LLC and its affiliate Cross-Valliant Cellular Partnership, d/b/a Sprocket Wireless**

**East Kentucky Network, LLC d/b/a Appalachian Wireless**

**FTC Communications, Inc.**



**GCI Communication Corp.**

**Inland Cellular, LLC**

**Iowa Wireless Services, LLC d/b/a iWireless**

**Kentucky RSA #3 Cellular General Partnership;  
Kentucky RSA #4 Cellular General Partnership;  
Cumberland Cellular Partnership, collectively Bluegrass Cellular**

**Missouri RSA 5 Partnership d/b/a Chariton Valley Wireless Services**

**NE Colorado Cellular, Inc. d/b/a Viaero Wireless**

**Nex-Tech Wireless, LLC**

**Northwest Missouri Cellular Limited Partnership d/b/a NorthwestCell**

**Nsighttel Wireless, LLC d/b/a Cellcom**

**Panhandle Telecommunication Systems, Inc. d/b/a PTCI**

**Pine Belt Cellular, Inc. d/b/a Pine Belt Wireless**

**Pinpoint Wireless Inc. d/b/a BLAZE Wireless**

**Premier Wireless, Inc.**

**RSA 1 Limited Partnership;  
Iowa RSA 2 Limited Partnership, collectively Chat Mobility**

**Rural Independent Network Alliance LLC**

**Shenandoah Telecommunications Company, Inc. d/b/a Shentel**

**South Slope Cooperative Telephone Company d/b/a South Slope Wireless**

**Southern Communications Services, Inc. d/b/a Southern Linc**

**Texas 10, LLC d/b/a Cellular One**

**Thumb Cellular, LLC**

**Triangle Communication System, Inc.**

**Uintah Basin Electronic Telecommunications, LLC d/b/a STRATA Networks**

**United Wireless Communications, Inc.**

**Upper Midwest Wireless, LLC, and its affiliates**

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The remainder of CCA’s participating carrier members that opted-in to CCA’s waiver are listed below. Pursuant to the *CCA TTY Waiver Order*, each carrier provides an update on its progress and status to developing and deploying its selected accessibility solution(s) including information on interoperability with the technologies deployed or to be deployed by other service providers, backward compatibility with TTYs, and efforts to ensure delivery of 911 calls to the appropriate PSAP or emergency authority. CCA and its members look forward to ongoing collaboration with the FCC and industry to promote accessibility for all consumers.

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**Sprint Corporation**

<b><u>Question</u></b>	<b><u>Member Answer</u></b>
Please provide company identification information, including whether you operate under a d/b/a.	Sprint Corporation on behalf of its brands Sprint, Sprint Prepaid, Boost Mobile, Virgin Mobile USA and Assurance Wireless (hereinafter “Sprint”).
Please provide specific evidence of your progress and status toward developing and deploying an alternative accessibility solution to TTY, if any, by December 2017.	Sprint has developed a cross-departmental team that meets regularly to discuss an accessible RTT solution. This project-focused team includes representatives from Sprint’s Network, Product, Relay, Legal/Regulatory and Standards organizations. The team monitors closely the work within the industry standards bodies to ensure Sprint’s ultimate solution will comport with these standards to ensure seamless interoperable communications as well as backwards compatibility.
Please provide <i>an estimated timetable</i> of your plans to develop and deploy an alternative accessibility solution to TTY, if applicable, by December 2017.	Sprint is planning to deploy RTT support for its IP-based wireless communications. Sprint’s timeline to deploy an all IP network for voice communications ( <i>e.g.</i> , VoLTE) is undetermined at this point. However, as Sprint deploys IMS as part of its VoLTE roll-out, Sprint will incorporate RTT support. In the interim, Sprint will continue to support TTY over its circuit-switched voice network.
Please provide information on interoperability with the technologies deployed or to be deployed by other service providers. Have you encountered obstacles to achieving interoperability? If so, please describe your efforts to overcome these barriers.	Sprint’s concerns regarding interoperability center on IETF RFC 4103 and OEM adoption. While RFC 4103 interoperability has been defined by the FCC as minimum interoperability, there are other aspects for both device and network deployments not covered by RFC 4103 which are being developed in other standards bodies such as ATIS. These standards, which are not complete, affect OEMs ability to develop RTT (RFC 4103) compatible handsets.
Please describe your efforts to ensure backward compatibility with TTYs. Have you encountered obstacles to	Sprint believes backwards compatibility solutions will be unique to each carrier and urges the FCC to provide regulatory flexibility, so that each carrier may

<p>achieving backward compatibility with TTY technology? If so, describe your efforts to overcome these barriers.</p>	<p>determine the best approach for its particular network/architecture as well as handsets.</p>
<p>To the extent a participating CCA member begins to make RTT available, it must ensure that all 911 calls using this technology are delivered in accordance with the obligation to transmit 911 calls to the appropriate PSAP or local emergency authority. Please describe your efforts to ensure delivery of 911 calls to the appropriate PSAP, if applicable.</p>	<p>Sprint endeavors to meet this goal guided by industry standards supporting 911 call compatibility. Testing will be of paramount importance, however, Sprint is not nearing this stage of deployment. Sprint looks forward to updating the Commission on this important aspect of RTT when it is closer to deploying a solution.</p>
<p>Please provide information related to “ongoing coordination with other carriers working to develop RTT, educational efforts regarding RTT, and implementation plans that will facilitate RTT.”</p>	<p>Sprint participates in numerous industry standards bodies involved with RTT development, including notably, two ATIS committees: the Wireless Technology and Systems Committee (WTSC), and the Packet Technologies and Systems Committee (PTSC). Sprint also works individually with consumer interest groups and collectively with CTIA and CCA on a variety of outreach/educational activities. As the nation’s leading provider of Relay Services, Sprint is proud of its service to deaf, hard of hearing, speech impaired and deaf-blind consumers and looks forward to ensuring RTT will be implemented in a way to further enrich the lives of people in these communities.</p>

**T-Mobile US, Inc.**

<b><u>Question</u></b>	<b><u>Member Answer</u></b>
Please provide company identification information, including whether you operate under a d/b/a.	T-Mobile US, Inc. <sup>13</sup>
Please provide specific evidence of your progress and status toward developing and deploying an alternative accessibility solution to TTY, if any, by December 2017.	T-Mobile is implementing industry standards that will support interoperable RTT solutions for its 4G LTE network based on RFC 4103 as developed as a result of input from the Internet Engineering Task Force (IETF).
Please provide <i>an estimated timetable</i> of your plans to develop and deploy an alternative accessibility solution to TTY, if applicable, by December 2017.	T-Mobile is on track to timely deploy an accessibility solution in its network based on RFC 4103 by the year-end 2017 deadline. The company expects to initiate plans for testing aspects of its solution within the next few months. It is important to recognize that RTT handset deployment is dependent upon what manufacturers can feasibly make available in consumer devices and the timing of such implementation.
Please provide information on interoperability with the technologies deployed or to be deployed by other service providers. Have you encountered obstacles to achieving interoperability? If so, please describe your efforts to overcome these barriers.	T-Mobile is in the process of exploring opportunities to test RTT interoperability with other service providers. As part of this process, the company will devise a comprehensive, multi-faceted testing plan to allow assessment of various use cases.
Please describe your efforts to ensure backward compatibility with TTYs. Have you encountered obstacles to achieving backward compatibility with TTY technology? If so, describe your efforts to overcome these barriers.	T-Mobile believes that RTT backward compatibility with TTY technology can be achieved by way of multiple approaches. Given unique network architectures and relationships with handset manufacturers, we urge the FCC to build into any agency requirements flexibility to enable RTT implementation and deployment in the way that makes the most sense for each service provider.
To the extent a participating CCA member begins to make RTT available, it must ensure that all 911 calls using this technology are	T-Mobile is committed to accurately transmitting 911 calls and is in the process of exploring opportunities to test its RTT solution to ensure 911 calls are transmitted as appropriate. As part of this process,

<sup>13</sup> T-Mobile US, Inc., a publicly traded company, provides services through its subsidiaries and operates its flagship brands, T-Mobile and Metro PCS. This document addresses the network of T-Mobile US, Inc.

<p>delivered in accordance with the obligation to transmit 911 calls to the appropriate PSAP or local emergency authority. Please describe your efforts to ensure delivery of 911 calls to the appropriate PSAP, if applicable.</p>	<p>the company will devise a comprehensive, multi-pronged testing plan to allow assessment of various use cases.</p>
<p>Please provide information related to “ongoing coordination with other carriers working to develop RTT, educational efforts regarding RTT, and implementation plans that will facilitate RTT.”</p>	<p>T-Mobile is an active participant in the Alliance for Telecommunications Industry Solutions (ATIS) RTT standards development working groups.</p> <p>The company’s cross-functional team, comprised of engineers and business managers, are collaborating on the deployment of its RTT solution, specifically focusing on the wireless network, wireless handsets, emergency calling capabilities and the accessibility experience. As mentioned above, T-Mobile is in the process of exploring opportunities to test its RTT solution.</p> <p>T-Mobile works with CTIA and CCA on outreach/educational opportunities regarding RTT in addition to taking steps to inform its customers about certain limitations of TTY operations over IP-technologies.</p>

**United States Cellular Corporation**

<b><u>Question</u></b>	<b><u>Member Answer</u></b>
Please provide company identification information, including whether you operate under a d/b/a.	United States Cellular Corporation (“U.S. Cellular”), its Subsidiaries and Affiliates (collectively referred to as “USCC”).
Please provide specific evidence of your progress and status toward developing and deploying an alternative accessibility solution to TTY, if any, by December 2017.	U.S. Cellular has taken significant steps towards achieving an accessible RTT solution since the submission of the preliminary report for the CCA TTY Waiver. A project team, consisting of technical experts, network planners, and a device specialist, was identified to review and evaluate relevant use cases that will frame the design and implementation of a full RTT solution, native to the network. Network architecture design and network planning will soon be implemented to support use cases that mimic a real-world environment of accessibility services and features. The cases cover interoperability, backwards compatibility with TTY, and 911 calls to the appropriate PSAP or Public Safety termination point.
Please provide <i>an estimated timetable</i> of your plans to develop and deploy an alternative accessibility solution to TTY, if applicable, by December 2017.	USCC is committed to achieving RTT network readiness within the relevant timeframe. Analysis of the scope, use cases, and reference architecture has confirmed the project plan and milestones to deliver RTT.
Please provide information on interoperability with the technologies deployed or to be deployed by other service providers. Have you encountered obstacles to achieving interoperability? If so, please describe your efforts to overcome these barriers.	The IETF RFC 4103 is considered a critical component towards making interoperability functional across commercial platforms. USCC is evaluating the RFC 4103 transport protocol to incorporate into an accessible RTT solution. USCC currently has inquiries into the device OEMs to determine their timelines and roadmaps regarding RTT-enabled handsets and their interoperability with RTT solutions.
Please describe your efforts to ensure backward compatibility with TTYs. Have you encountered obstacles to achieving backward compatibility with TTY technology? If so, describe your efforts to overcome these barriers.	USCC is continuing to evaluate dedicated architecture and design that will support industry standards capabilities for TTY backwards compatibility, such as accessibility to 911 emergency services, TRS support, and peer-to-peer call sessions.
To the extent a participating CCA member begins to make RTT	USCC presently has not deployed RTT but intends to do so with a standards-based approach supporting 911

<p>available, it must ensure that all 911 calls using this technology are delivered in accordance with the obligation to transmit 911 calls to the appropriate PSAP or local emergency authority. Please describe your efforts to ensure delivery of 911 calls to the appropriate PSAP, if applicable.</p>	<p>call compatibility to PSAP destinations.</p>
<p>Please provide information related to “ongoing coordination with other carriers working to develop RTT, educational efforts regarding RTT, and implementation plans that will facilitate RTT.”</p>	<p>Currently, USCC is collaborating with the two major wireless carrier industry trade associations to respond to the FCC’s “Transition of TTY to RTT” NPRM and also monitors participating carriers’ RTT progress reports for implementation plans. USCC anticipates that educational materials concerning RTT will be posted on its own customer facing website and further cross-referenced on industry association websites.</p>